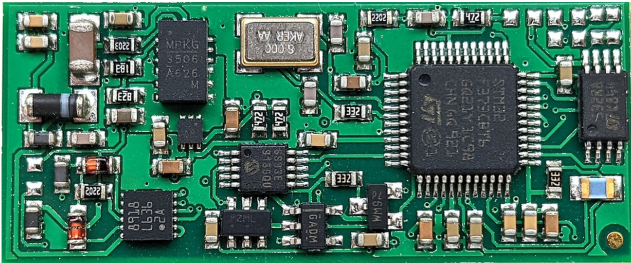


IO-LINK TEMPERATURE BOARD (OEM)



Type: **MCTT-E**

- Pt100 3-WIRE · TYPE J · K · N
- -200 ... 1372 °C
- IO-LINK INTERFACE
- 40 × 17 × 6.5 mm



ORDER CODE

Code	Field	Meaning
EKMD	series	IO-Link temperature board MCTT-E
4	input	please specify — Pt100 3-wire, or thermocouple type J, K or N
1	output	IO-Link
0	configuration	customized, please specify
0 · 1	special model	no · yes, please specify

As delivered the board carries no configuration; the manufacturer calls that the factory setting.



OVERVIEW

The MCTT-E is a bare board for installation in a device of your own: 40 × 17 × 6.5 mm, six solder pads, no case. It measures either with one Pt100 in three-wire connection over –200 to 800 °C or with a thermocouple of type J, K or N, together covering –200 to 1372 °C, and passes the value on over IO-Link with a signal level of 0 / 24 V. The amplifier resolves 16 bit and adds at most 0.02 % of the nominal range to the sensor error; the response time is 20 ms, the filter setting 25 s. Supply is 24 V DC with less than 30 mA in normal operation and at most 130 mA in total when the switching output is loaded; reverse polarity does not destroy the board. Case, protection class and terminals come from the device the board is built into.

MEASUREMENT AND INTERFACE	BOARD AND SUPPLY
• Pt100, 3-wire, –200 ... 800 °C • Type J –210 ... 1200 °C • Type K –200 ... 1372 °C • Type N –200 ... 1300 °C • Accuracy max. 0.02 % of nominal range • Resolution 16 bit, response time 20 ms • IO-Link, signal level 0 / 24 V • Filter setting 25 s	• Dimensions 40 × 17 × 6.5 mm, approx. 3.4 g • No case — IP00, protection from the installation • Solder pads 2.7 × 1.5 mm • Supply 24 V DC • Current < 30 mA, total max. 130 mA • Reverse polarity protection • Operating temperature –20 ... +80 °C • EN 61000-6-4 and EN 61000-6-2



TECHNICAL DATA

INPUT

Pt100	1 × Pt100 · 3-wire · nominal range –200 ... 800 °C · sensor current 0.9 mA
Thermocouple type J	–210 ... 1200 °C
Thermocouple type K	–200 ... 1372 °C
Thermocouple type N	–200 ... 1300 °C

AMPLIFIER

Accuracy	max. 0.02 % of the nominal range plus sensor error
Resolution	16 bit
Supply voltage	24 V DC
Current	normal < 30 mA · switching current (SIO) max. 100 mA · total max. 130 mA
Reverse polarity	protected — no function, no destruction

INTERFACE

Interface	IO-Link
Signal level	0 / 24 V to the IO-Link specification
Transmission	linear with temperature
Response time	20 ms
Switch-on delay	< 5 s
Filter setting	25 s

ENVIRONMENT

Operating temperature	–20 ... +80 °C
Storage temperature	–40 ... +85 °C
Air humidity	30 ... 90 % rH at 40 °C, no condensation
EMC conformity	EN 61000-6-4 · EN 61000-6-2

MECHANICS

Board	40 × 17 × 6.5 mm · approx. 3.4 g, not potted
Case	none — the board is built into a device of your own
Protection class	IP00
Electrical connection	solder pads 2.7 × 1.5 mm — +24 V, GND, C/Q on one side, S+, +T, S– on the other



ELECTRICAL CONNECTION

Supply and IO-Link

+24 V

GND

C/Q

supply 24 V DC

reference potential

IO-Link · switching output

Resistance thermometer

S+

+T

S-

Pt100, 3-wire

Thermocouple

S+

+T

S-

type J · type K · type N

One side carries supply and interface, the other the sensor. A Pt100 is connected in three-wire technique: one lead to S+, the two others to +T and S- at the same end of the sensor. A thermocouple goes to +T and S-; S+ then stays free.

ACCESSORIES

IO-Link master	needed for configuration and operation; not part of the delivery
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The manufacturer document names no accessories of its own.

COMPLIANCE

	Protection class	IP00 — bare board, protection comes from the installation
	Interface	IO-Link, signal level 0 / 24 V

The manufacturer names EN 61000-6-4 and EN 61000-6-2 as EMC conformity. Case, protection class and strain relief are the responsibility of whoever builds the board in.

4 | 5

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DIMENSIONS (mm)

